

REMARKS/ARGUMENTS

Claims 1-60 are pending.

CLAIM REJECTIONS UNDER 35 USC 103

Claims 1-4, 7-10, 12-13, 15-17, 22-23, 26-30, 33-40, 43, 45-51, and 58-60 are rejected under 35 USC 103(a) as being unpatentable over US patent no. 6,418,235 to Morimoto et al. in view of the Jebara article cited at item 10 of the Office Action. This rejection is respectfully traversed. The combination of Morimoto et al. and Jebara does not yield Applicants' invention, nor would such combination produce an advantageous product that would work properly without having to take extraneous steps, such that one skilled in the art would not be motivated to combine Morimoto et al. with Jebara.

Even if one could combine the normalization techniques of Jebara with Morimoto, a combination that Applicants strongly assert would not result in a workable technique, the "faceprint" in Morimoto is still NOT based on "transformed" classifiers, but rather on geometric classifiers. Moreover, there is no obvious motivation to apply a non-geometric classifier within the application described by Morimoto et al. To do so, one would have to include an extraneous step and determine to use a fundamentally different method of extracting face classifier data than is described by Morimoto et al.

Morimoto et al. describe a technique that does not involve normalization. As such, there is simply no motivation to choose to normalize the geometric face region of Morimoto et al., especially since by applying normalization of the geometric face region, the technique of Morimoto et al. would now be prevented from working. In fact, after applying normalization to the geometric face region, Morimoto et al. would have to apply an unnecessarily complex technique, i.e., considerably more complex than the technique described by Morimoto et al., while Morimoto et al. would have to rely in that instance upon determining "transformed" classifiers.

There is another distinction between the description of Morimoto et al. and the technique of the present invention that further supports Applicants' assertions that there

would be no motivation to combine Morimoto et al. and that the combination would not yield Applicants' invention nor even a workable solution. That is, Morimoto et al. are concerned with a security/access control system. As such, Morimoto et al. may reasonably expect a person to stand in a pre-determined location as instructed by an operator or as understood by such person who may be wishing to have some access control permission or the like. With such system, the face region of the person would be disposed in an expected, controlled location in the image and at an expected, controlled distance from the camera. Thus, in the application of a security/access control system, with which Morimoto et al. are concerned, implementing a normalization algorithm simply amounts to adding an unnecessary complexity to their technique, and which would force Morimoto et al. to modify the remainder of the technique to accommodate the normalization.

In stark contrast, a particularly advantageous application of the present invention would involve arbitrary images, e.g., from consumer image collections, wherein there is little or no control over the size, orientation and/or location of face regions within the images. Thus, normalization provides a fundamental advantage with regard to the present invention in this exemplary application, while normalization would add unnecessary complexity if combined with the application of Morimoto et al.

Simply put, Morimoto et al. describe a technique that is designed to be used in a non-analogous field, i.e., security/access control, compared with Applicants' invention which is designed to benefit very different fields of applications, such as for digitally classifying images within a collection acquired and/or stored within a consumer electronic device such as a portable digital camera or camera-phone.

Claim 1 now further requires that the normalized face regions comprise spatially normalized face regions, which are normalized with respect to orientation or pose, or both, and with respect to a standard size based on one or more distances between eyes, nose, mouth, or one or more other facial features, or combinations thereof. This feature

is neither taught nor suggested by any combination of Morimoto and Jebara. Claims 11, 20, 31, and 41 are also allowable for this reason.

Claim 15 now further requires that the normalized face regions comprise spatially normalized face regions, which are normalized with respect to size. As indicated, the technique of Morimoto simply won't work using face regions which are normalized with respect to size. The same goes for claims 17, 34, and 45. Claims 15, 17, 34 and 45 are also allowable for the reasons set forth above regarding claim 1.

Claim 1 is thus allowable, and claims 2-4, 7-10, 12-13 are allowable as being dependent from claim 1. Claims 49, 50, 51, 58, 59 and 60 are allowable for the same reasons as claim 1, and claim 16 is allowable as being dependent from claim 15, claims 22-23, 26-30 and 33 are allowable as being dependent from claim 17, and claims 35-40, 43 and 46-48 are allowable as being dependent from claim 34.

Claims 15 and 45 are also allowable for the further reason that each requires an appearance table that comprises a list of links to two or more identity tables associated with two or more distinct appearances determined for the known identity. This feature is simply not taught nor suggested by Morimoto et al. Claim 16 is allowable as being dependent from claim 15.

Claims 49, 50 and 51 are also allowable for the further reason that each require that normalized face regions are normalized prior to extracting face classifier parameters therefrom. This feature is not taught nor suggested by any non-obvious or workable combination of Morimoto et al. and Jebara. Morimoto teaches away from this feature, and specifically provides a technique that will not work if the face regions are normalized prior to extracting face classifier parameters.

Claim 5 is also allowable for the same reasons as claim 1, and claim 6 is allowable as being dependent from claim 5. Claim 24 is allowable for the same reasons

as claim 5, and claim 25 is allowable as being dependent from claim 24. For the reasons set forth above, no combination of Morimoto, Jebara and Watanabe (US2003/0048926) teaches or suggests all of the elements of Applicants' claim 1, nor claims 5-6 nor 24-25.

Claim 11 is also allowable for the same reasons as claim 1, and claims 31 and 41 are allowable for the same reasons as claim 11, and claim 32 is allowable as being dependent on claim 31, and claim 42 is allowable as being based on claim 41. For the reasons set forth above, no combination of Morimoto, Jebara and Jonas (US2004/0210763) teaches or suggests all of the elements of Applicants' claim 1, nor claims 11, 31-32, nor 41-42. In addition, none of the references being relied upon discloses the other elements of claim 11 in combination with the recitation of claim 11 that the normalized face regions are normalized with respect to a standard size based on one or more distances between eyes, nose, mouth, or one or more other facial features, or combinations thereof.

Claim 52 is also allowable for the same reasons as claim 1, and claims 53-57 are allowable as being dependent on claim 52. For the reasons set forth above, no combination of Morimoto, Jebara and Nicponski (US2003/0128877) teaches or suggests all of the elements of Applicants' claim 1, nor claims 52-57.

Claims 14 and 44 are also allowable for the same reasons as claim 1. For the reasons set forth above, no combination of Morimoto, Jebara and Lee (US7,092,555) teaches or suggests all of the elements of Applicants' claim 1, nor claims 14 nor 44.

Claims 18-19 are also allowable for the same reasons as claim 1. For the reasons set forth above, no combination of Morimoto, Jebara and Deluca et al. (US2004/0223063) teaches or suggests all of the elements of Applicants' claim 1, nor claims 18-19. In addition, US2004/0223063 cannot be cited under 35 USC 103(a) due to the provisions of 35 USC 103(c) and the fact that US2004/022063 and the present application have been commonly owned from the time of the invention.

Claim 18 is further allowable because neither Morimoto et al. nor any other relied upon reference, nor any non-obvious, workable combination thereof teaches or suggests one or more groups of image data that include image metadata including anthropometrical information associated with conditions of acquisition or normalization, or both, of a face region corresponding to a group of image data and its associated parent image. In addition, Claim 18 is also allowable because Deluca et al. is not prior art under 35 USC 103(a) due to the provisions of 35 USC 103(c) and because Deluca et al. and the present application were commonly owned at the time of the invention and continue to be commonly owned by the same assignee.

Claim 19 is further allowable because neither Morimoto et al. nor any other relied upon reference, nor any non-obvious, workable combination thereof teaches or suggests one or more groups of image data that include image metadata including focusing distance of the lens at time of acquisition, or effective digital camera sensor size, or both. In addition, Claim 19 is also allowable because Deluca et al. is not prior art under 35 USC 103(a) due to the provisions of 35 USC 103(c) and because Deluca et al. and the present application were commonly owned at the time of the invention and continue to be commonly owned by the same assignee.

Claim 20 is allowable for the same reasons as claim 1. For the reasons set forth above, no combination of Morimoto, Jebara and Enomoto (US2003/0086134) teaches or suggests all of the elements of Applicants' claim 1, nor claim 20.

Claim 20 is further allowable because neither Morimoto et al. nor any other relied upon reference, nor any non-obvious, workable combination thereof teaches or suggests one or more image data groups that include additional image data associated with circumstances of acquisition of a parent image and associated face region corresponding to a group of image data. In addition, none of the references being relied upon discloses the other elements of claim 20 in combination with the recitation of claim 20 that the normalized face regions are normalized with respect to a standard size based on one or

more distances between eyes, nose, mouth, or one or more other facial features, or combinations thereof.

Claim 21 is allowable for the same reasons as claim 1. For the reasons set forth above, no combination of Morimoto, Jebara, Enomoto, and Okusa (US2003/0158838) teaches or suggests all of the elements of Applicants' claim 1, nor claim 21.

Claim 21 is further allowable because neither Morimoto et al. nor any other relied upon reference, nor any non-obvious, workable combination thereof teaches or suggests one or more image data groups that include additional image data associated with circumstances of acquisition of a parent image and associated face region corresponding to a group of image data.

Claim 58 is further allowable because neither Morimoto et al. nor any other relied upon reference, nor any non-obvious, workable combination thereof, teaches or suggests normalized face regions that are first normalized with respect to pose, and then with respect to orientation, and then with respect to size.

Claims 54-55 and 59 are further allowable as being based on claim 17 for the reasons set forth above.

Claim 55 is further allowable because neither Morimoto et al. nor any other relied upon reference, nor any non-obvious, workable combination thereof, teaches or suggests normalized face regions that are normalized with respect to a standard size based on separation of eyes, nose or mouth, or combinations thereof.

Claim 59 is further allowable because neither Morimoto et al. nor any other relied upon reference, nor any non-obvious, workable combination thereof, teaches or suggests normalized face regions that are first normalized with respect to pose, and then with respect to orientation, and then with respect to size.

Claims 56-57 and 60 are further allowable as being based on claim 34, for the reasons set forth above.

Claim 57 is further allowable because neither Morimoto et al. nor any other relied upon reference, nor any non-obvious, workable combination thereof, teaches or suggests normalized face regions that are normalized with respect to a standard size based on separation of eyes, nose or mouth, or combinations thereof.

Claim 60 is further allowable because neither Morimoto et al. nor any other relied upon reference, nor any non-obvious, workable combination thereof, teaches or suggests normalized face regions that are first normalized with respect to pose, and then with respect to orientation, and then with respect to size.

In view of the above, it is respectfully submitted that the application is now in condition for allowance. The Examiner's reconsideration and further examination are respectfully requested.

The Commissioner is authorized to charge any deficiencies in fees and credit any overpayment of fees to Deposit Account No. 50-4399. A duplicate page is enclosed.

Respectfully submitted,

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By /Andrew Vernon Smith/
Andrew V. Smith
Reg. No. 43,132
Attorney for Applicant

TESSERA
3025 Orchard Parkway
San Jose, CA 95134
Tel: (415) 203-2782
Fax: (408) 321-2905
Customer No. 72104